General Motors

General Motors LLC
Compliance & Certification
MC 483-331-500
Milford Proving Ground
3300 General Motors Road
Milford, Michigan 48380-3726

March 22, 2011

MH-MW410

Mr. Gregory Orehowsky
Engine Programs Group
Certification & Compliance Division
U.S. Environmental Protection Agency
Mail Code 6403J
1200 Pennsylvania Avenue, NW
Washington, DC 20460

**Emission Defect Information Report**
2010 / 2011 6.6L Diesel Engines Equipped with Select Catalyst Reduction Systems
Diesel Exhaust Fluid Injection System

General Motors submits the attached Emission Defect Information Report in accordance with the requirements of 40 CFR Part 85, Subpart T, Section 85.1903.

Questions should be addressed to Mr. Chris Brown at (248) 255-7398.

Sincerely,

David P. Garrett, Director
Compliance & Certification

DPG/CSB
Attachments

**EMISSION DEFECT INFORMATION REPORT FOR**
**U.S. ENVIRONMENTAL PROTECTION AGENCY**

**Information Required by 40 CFR**
**Part 85, Subpart T, Section 85.1903**

**MW410**

**Problem Description – Select One Only**

__X_Defective/Incorrect Catalyst Component/System
____Defective/Incorrect Computer Related (Other than OBD)
____ Defective/Incorrect Crankcase Ventilation Component/System
____ Defective/Incorrect EGR System
____ Defective/Incorrect Electrical Mechanical & Cooling Systems
____ Defective/Incorrect Evaporative Emissions System
____ Defective/Incorrect Exhaust System
____ Defective/Incorrect Fuel Delivery Component
____ Defective/Incorrect Fuel Tank Component
____ Defective/Incorrect Hybrid Vehicle Component/System
____ Defective/Incorrect Ignition Component
____ Defective/Incorrect Intake Manifold
____ Defective/Incorrect Monitoring/Measuring Sensor/System
____ Defective/Incorrect OBD System
____ Defective/Incorrect Oxygen Sensor
____ Defective/Incorrect VECI Label

**California only ?** Yes _____ No X

**Mil illumination ?** Yes X No _____

**Description of the defect.**

Certain 2010 and 2011 Chevrolet Express/ Silverado and GMC Savanna/ Sierra vehicles equipped with 6.6 liter diesel engines and Select Catalyst Reduction (SCR) systems have been built with the following Diesel Exhaust Fluid (DEF) injection system anomalies:

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- Certain DEF system warnings and speed limiting inducement sequences could be temporarily interrupted before servicing of the DEF system.
- Under sustained cold weather conditions below the freeze temperature of DEF, the injected DEF quantity could deplete the amount of thawed liquid DEF causing a loss of DEF injection pressure resulting in DEF system malfunction warnings and vehicle speed limiting inducements.
- Under sustained cold weather conditions below the freeze temperature of DEF and after certain driving maneuvers, the DEF system could fail to recognize a DEF system fluid refill resulting in eventual DEF system low fluid level warnings and vehicle speed limiting inducements.
- After certain driving maneuvers and/or sustained cold weather conditions below the freeze temperature of DEF, DEF injection quantity could be temporarily reduced from the intended injection amount.

**Emissions impact.**

The impact of these concerns on emission has not been measured. Reduced DEF exhaust stream injection could result in reduced NOx emissions control.

**Driveability problems.**

When the vehicle speed limiting inducement strategy is initialized as the result of these concerns, vehicle operators will notice a progressive vehicle speed limitation sequence that could ultimately prevent the vehicle from being driven greater than 4 miles per hour.

**How Was Defect Determined**

The defect was determined in accordance with applicable legal requirements.

**Available Emissions Data.**

There has been no emission data collected in connection with the concerns identified in this report.

**Addresses of the plant(s) at which the potential defective vehicles or engines were produced.**

General Motors
Fort Wayne Assembly
12200 Lafayette Ctr. Road
Fort Wayne, IN 46783

General Motors
Flint Assembly
G-3100 Van Slyke Road
Flint, MI 48551

General Motors
Wentzville Assembly
P.O. Box 716
Wentzville, MO 63385

**Anticipated manufacturer follow-up.**

Modified Engine Control Module (ECM) software and calibrations that address the concerns identified in this report are currently under development. GM anticipates that the modified software and calibrations will be installed into the 2011 model year production vehicles and released for service reprogramming when finalized. Further, General Motors will consider the need to conduct a Voluntary Emission Recall to reprogram the ECM in the vehicles identified in this report when the improved software and calibrations become available.

**Notes**

General Motors LLC does not, by filing this report, admit the existence of a defect subject to the Production and Performance Warranties provided by Section 207(a) and 207(b) of the Clean Air Act, as amended, or Section 43204 of the California Health and Safety Code.

**MW410**
**Estimated Number of Vehicles Affected**

Total Model Year 2010 = 1721
2011 = 71486

| Model Year | Engine Family | Emission Standard | Vehicle Make | Model Name | Total |
|---|---|---|---|---|---|
| 2010 | BGMXH06.6590 | 50-State | Chevrolet | Express | 1637 |
| | | 50-State | GMC | Savana | 84 |
| | | | | | |
| 2011 | BGMXH06.6590 | 50-State | Chevrolet | Express | 1632 |
| | | 50-State | Chevrolet | Silverado | 5391 |
| | | 50-State | GMC | Savana | 428 |
| | | 50-State | GMC | Sierra | 1519 |
| | | | | | |
| 2011 | BGMXD06.6365 | 50-State | Chevrolet | Silverado | 12792 |
| | | 50-State | GMC | Sierra | 4854 |
| | | | | | |
| 2011 | BGMXD06.6355 | 50-State | Chevrolet | Silverado | 29715 |
| | | 50-State | GMC | Sierra | 15155 |
| | | | | | |

These volume estimates were generated from General Motors corporate data files that identify produced and sold vehicles by build options and emissions package sales options.